**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | |
|---|---|
| Applicant: | Spencer *et al.* |
| Application No: | 10/765,065 |
| Title: | Multi-Step Method of Manufacturing a Medical Device |
| Filing Date: | January 28, 2004 |
| Art Unit: | 1762 |
| Examiner: | Cameron, Erma |

**Mail Stop Amendment**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

SIR:

Applicants request review of the final rejection of October 18, 2006 in the above-identified application. A notice of appeal is being filed concurrently with this request. This review is requested for the reasons stated below.

**Summary of Status of Claims**

Claims 1-19 are pending in the present application. Claims 5 and 13-18 have been withdrawn from consideration.

**Summary of Claims**

Claim 1 is directed to a method of manufacturing a medical device that has a total desired amount of therapeutic agent disposed thereon. The method includes applying a first desired amount of therapeutic agent on one portion of the medical device and then determining the actual amount of therapeutic agent disposed on that portion of the medical device (which may or may not be equal to the desired amount). The method further includes applying an additional second desired amount of therapeutic agent on the medical device which is equal to the difference between the total desired amount and the actual amount applied in the first coating step. Claim 19 is directed to a similar multi-step coating process utilizing different therapeutic agents.

**Claims 1-4, 6-8 and 10-12 Are Not Rendered Obvious by Lentz**

The only outstanding rejection in this case is the rejection of claims 1-4, 6-8, and 10-12 under 35 U.S.C. §103(a) for being allegedly rendered obvious by U.S. Patent Publication No. 2002/0133183 to Lentz ("Lentz").

In the Office Action of October 18, 2006, the Examiner stated that Lentz teaches the importance of monitoring drug release profiles, starting with formulating the stent coatings. The Examiner then asserts that monitoring the drug release profile is dependent on the amount of drug on the stent in the first place.

Irrespective of these assertions, Lentz does not describe the multi-step coating process as recited by the present claims. Specifically, Lentz does not describe applying therapeutic agent to a portion of the medical device, determining the actual amount of therapeutic agent applied to that portion and then applying additional therapeutic agent to a remaining portion(s) of the medical device which equals the difference between the actual amount applied during the initial step and the total amount desired to be placed on the medical device. Lentz only describes applying a first and a second therapeutic agent

to a stent. There is no description in Lentz of applying drug to sequential portions of the device and calculating the actual amount applied between the sequential coating steps to determine how much additional therapeutic agent should be applied. Therefore, Lentz does not teach or suggest any part of the methods claimed.

The Examiner appears to ignore the majority of the limitations of claim 1 in the rejection. The Examiner admits that Lentz "does not directly state that the amount of heparin on the outer surface of the medical device is coordinated with the amount applied to the inner surface of the medical device." However, the Examiner states that it would have been obvious to one of ordinary skill in the art to have coordinated the amount of drugs applied to the two surfaces, without providing any basis for this obviousness conclusion. The Examiner has pointed to no rationale or teaching in Lentz or in any of the other references that would motivate one skilled in the art to determine the actual amount of the drug applied to one surface of the medical device before applying drug to another surface of the medical device. There is no teaching in Lentz or any other reference cited by the Examiner that even recognizes that there is a need to reduce the overall error rate in the application of a drug(s) to a medical device during manufacturing, let alone to reduce the overall error rate using the method recited in claims 1-4, 6-8 and 10-12 (nor does Lentz provide any other rationale for performing the methods recited in the present claims).

In the Advisory Action of December 27, 2006, the Examiner states that "a drug delivery device such as a drug-eluting stent would certainly be manufactured so as to firstly contain and then deliver desired quantities of the drug. The medical profession does not deliver drugs to a patient without consideration of doses." Applicants do not dispute this statement but rather are asserting that the method employed in the art do not utilize a multi-step coating method to obtain an accurate indication of dose. Rather, it is well known that the medical industry utilizes a single step coating process where the bare medical device (such as a stent) is measured before coating and then once after the entire surface desired to be coated is coated to determine the dose of drug applied to the medical device (if it is determined that the measured dose is not within the range of the desired dose, the medical device is discarded). It is Applicants who have recognized that such a **one-step** coating process is inaccurate due to variabilities in the spray process,

stent geometry from stent to stent and many other factors and have determined that a multi-step coating process, as recited in the present claims, compensates for drift in the spraying process and reduces the error in drug dosage. Until the Examiner can show that there is rationale for modifying the known one-step method to a multi-step method as recited by the present claims, an obviousness rejection cannot be maintained.

## CONCLUSION

In view of the foregoing, the Examiner erred in finally rejecting claims 1-4, 6-8 and 10-12. Accordingly, favorable action on this Pre-Appeal Brief Request for Review is respectfully requested.

Respectfully submitted,

KENYON & KENYON LLP

Dated: 4-18-07

By: Zeba Ali
(Reg. No. 51,392)

1500 K Street, N.W.
Suite 700
Washington, D.C. 20005
Tel: (202) 220-4200
Fax: (202) 220-4201